

## **I CLAIM:**

### **1. A wellhead assembly, comprising:**

an outer wellhead member adapted to be mounted to an upper end of a well and having a sidewall defining a bore;

an inner wellhead member that lands in the bore;

an electrical connection outer member mounted in a passage formed in the sidewall, the outer member having an inner end and an outer end adapted to be connected to an exterior electrical conductor on the exterior of the outer wellhead member; and

an electrical connection inner member mounted to the inner wellhead member and adapted to be connected to an interior electrical conductor leading to equipment in the well, the inner member having an outer end that is movable from a retracted position to an extended position in electrical engagement with the inner end of the outer member.

### **2. The wellhead assembly according to claim 1, further comprising:**

a lateral actuator member located at an inner end of the inner member, the lateral member being laterally movable relative to an axis of the inner wellhead member for moving the inner member from the retracted position; and

an axial actuator member extending axially upward from the lateral actuator member, so that axial movement of the axial actuator member causes the lateral actuator member to move laterally.

### **3. The wellhead assembly according to claim 1, further comprising:**

a lateral actuator member secured to an inner end of the inner member, the lateral member being laterally movable relative to an axis of the inner wellhead member for moving the inner member from the retracted position, the lateral actuator member having an inclined profile; and

an axial actuator member having a lower end with an inclined profile that slidably engages the profile in the lateral actuator member, the axial actuator member extending axially upward from the lateral actuator member, so that upward movement of the axial actuator member causes the lateral actuator member to move laterally inward and downward movement of the axial actuator causes the lateral actuator member to move laterally outward.

4. The wellhead assembly according to claim 1, wherein the outer member has a receptacle that receives a portion of the inner member when the inner member is in the extended position.

5. A wellhead assembly, comprising:

an outer wellhead member adapted to be mounted to an upper end of a well and having a sidewall defining a bore;

a tubing hanger that lands in the bore and is adapted to be connected to a string of tubing extending into the well;

a running tool that releasably engages the tubing hanger and has an setting member that moves axially for setting the tubing hanger in the bore;

an electrical connection outer member mounted in a passage formed in the sidewall, the outer member having an outer end adapted to be connected to an exterior electrical conductor on the exterior of the outer wellhead member and an inner end; and

an electrical connection inner member mounted to the tubing hanger and adapted to be connected to an interior electrical conductor leading to equipment in the well, the inner member

being movable in response to axial movement of the setting member of the running tool from a retracted position to an extended position in electrical engagement with the inner end of the outer member.

6. The wellhead assembly according to claim 5, further comprising:

a lateral actuator member located at an inner end of the inner member, the lateral member being laterally movable relative to an axis of the inner wellhead member for moving the inner member from the retracted position; and

an axial actuator member extending axially upward from the lateral actuator member for contact by the setting member of the running tool, so that axial movement of the setting member and the axial actuator member causes the lateral actuator member to move laterally.

7. The wellhead assembly according to claim 5, further comprising:

a lateral actuator member secured to an inner end of the inner member, the lateral member being laterally movable relative to an axis of the inner wellhead member for moving the inner member from the retracted position, the lateral actuator member having an inclined profile; and

an axial actuator member having a lower end with an inclined profile that slidingly engages the profile in the lateral actuator member, the axial actuator member extending axially upward from the lateral actuator member in engagement with the setting member of the running tool, so that upward movement of the setting member causes the axial actuator member to move up and the lateral actuator member to move laterally inward, and downward movement of the setting member causes the axial actuator to move downward and the lateral actuator member to move laterally outward.

8. A method of electrically connecting a downhole electrical component in a well to the surface, the well having an outer wellhead member at an upper end of the well, the method comprising:

(a) mounting an outer member of an electrical connection in a passage formed in a sidewall of the outer member;

(b) mounting an inner wellhead member on a string of conduit;

(c) mounting an inner member of an electrical connection to the inner wellhead member in a retracted position; then

(d) landing the inner wellhead member in the outer wellhead member; and then

(e) extending the inner member outward into electrical engagement with the outer member.

9. The method according to claim 8, wherein:

step (b) comprises securing the inner wellhead member to a running tool;

step (c) comprises mounting an actuator to the inner member of the electrical connection;

step (d) comprises operating the running tool to lock and seal the inner wellhead member to the outer wellhead member; and wherein step (e) comprises

simultaneously with step (d) engaging the setting member with the actuator and moving the actuator downward to extend the inner member outward.

10. The method according to claim 8, wherein:

step (b) comprises securing the inner wellhead member to a running tool that has an axially movable setting member;

step (d) comprises moving the setting member downward to lock and seal the inner wellhead member to the outer wellhead member; and wherein step (e) comprises

extending the inner member outward in response to the running tool locking and sealing the inner wellhead member to the outer wellhead member.